



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**

**REGION IV
1600 EAST LAMAR BOULEVARD
ARLINGTON, TEXAS 76011-4511**

February 11, 2019

Mr. Ken J. Peters, Senior Vice President
and Chief Nuclear Officer
Attention: Regulatory Affairs
Vistra Operations Company LLC
P.O. Box 1002
Glen Rose, TX 76043

**SUBJECT: COMANCHE PEAK NUCLEAR POWER PLANT – NRC INTEGRATED
INSPECTION REPORT 05000445/2018004 and 05000446/2018004**

Dear Mr. Peters:

On December 31, 2018, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your Comanche Peak Nuclear Power Plant, Units 1 and 2. On January 31, 2019, the NRC inspectors discussed the results of this inspection with Tom McCool, Site Vice President, and other members of your staff. The results of this inspection are documented in the enclosed report.

NRC inspectors documented four findings of very low safety significance (Green) in this report. All of these findings involved violations of NRC requirements; one of these violations was determined to be Severity Level IV under the traditional enforcement process. The NRC is treating these violations as non-cited violations (NCVs) consistent with Section 2.3.2 of the Enforcement Policy.

If you contest the violations or significance of these NCVs, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001; with copies to the Regional Administrator, Region IV; the Director, Office of Enforcement; and the NRC resident inspector at the Comanche Peak Nuclear Power Plant.

If you disagree with a cross-cutting aspect assignment in this report, you should provide a response within 30 days of the date of this inspection report, with the basis for your disagreement, to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001; with copies to the Regional Administrator, Region IV; the Director, Office of Enforcement; and the NRC resident inspector at the Comanche Peak Nuclear Power Plant.

K. Peters

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This letter, its enclosure, and your response (if any) will be made available for public inspection and copying at <http://www.nrc.gov/reading-rm/adams.html> and at the NRC Public Document Room in accordance with 10 CFR 2.390, "Public Inspections, Exemptions, Requests for Withholding."

Sincerely,

/RA/

Mark S. Haire, Chief
Project Branch A
Division of Reactor Projects

Docket Nos. 50-445 and 50-446
License Nos. NPF-87 and NPF-89

Enclosure:
Inspection Report 05000445/2018004 and
05000446/2018004

w/ Attachments:

1. Documents Reviewed
2. Request for Information
3. Request for Information

**U.S. NUCLEAR REGULATORY COMMISSION
Inspection Report**

Docket Numbers: 05000445, 05000446

License Numbers: NPF-87, NPF-89

Report Numbers: 05000445/2018004 and 05000446/2018004

Enterprise Identifier: I-2018-004-0011

Licensee: Vistra Operations Company, LLC

Facility: Comanche Peak Nuclear Power Plant, Units 1 and 2

Location: Glen Rose, Texas

Inspection Dates: October 1, 2018 to December 31, 2018

Inspectors: J. Josey, Senior Resident Inspector
R. Kumana, Resident Inspector
S. Hedger, Emergency Preparedness Inspector
L. Carson II, Senior Health Physicist
N. Green, PhD. Senior Health Physicist
J. Drake, Senior Reactor Inspector

Approved By: Mark S. Haire
Chief, Project Branch A
Division of Reactor Projects

SUMMARY

The U.S. Nuclear Regulatory Commission (NRC) continued monitoring the licensee’s performance by conducting an integrated inspection at Comanche Peak Nuclear Power Plant, Units 1 and 2, in accordance with the Reactor Oversight Process. The Reactor Oversight Process is the NRC’s program for overseeing the safe operation of commercial nuclear power reactors. Refer to <https://www.nrc.gov/reactors/operating/oversight.html> for more information. NRC-identified and self-revealed findings, violations, and additional items are summarized in the table below. Licensee-identified non-cited violations are documented in the Inspection Results at the end of this report.

List of Findings and Violations

Programmatic Failures Related to Procedures for the Control Transient Combustibles			
Cornerstone	Significance	Cross-cutting Aspect	Inspection Procedure
Mitigating Systems	Green NCV 05000446/2018004-01 Closed	H.2 - Field Presence	71111.05AQ — Fire Protection
The inspectors identified a Green, non-cited violation of Operating License NPF-89, License Condition 2.G, "Fire Protection Program," for the failure to control transient combustibles in accordance with the station's Fire Protection Report. The licensee entered this issue into the corrective action program as Condition Report (CR) 2018-008405.			

Inadequate Procedure for Alignment of Priority Panels Normally Aligned to Class 1E Power			
Cornerstone	Cornerstone	Cross-cutting Aspect	Inspection Procedure
Mitigating Systems	Green Severity Level IV NCV 05000445; 05000446/2018004-02 Closed	None	71111.15 — Operability Determinations and Functionality Assessments
The inspectors identified a Green, Severity Level IV, non-cited violation of Technical Specification 5.4.1.a associated with the failure to establish, implement, and maintain procedures for operation and maintenance of electrical systems, which are recommended in Regulatory Guide 1.33, Revision 2, Appendix A, February 1978. The licensee entered this issue into the corrective action program as CR-2018-006180 and CR-2019-001052.			

Failure to Correct a Condition Adverse to Quality			
Cornerstone	Significance	Cross-cutting Aspect	Inspection Procedure
Mitigating Systems	Green NCV 05000445; 05000446/2018004-03 Closed	H.5 - Work Management	71111.15 — Operability Determinations and Functionality Assessments
<p>The inspectors identified a Green, non-cited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," for the licensee's failure to take corrective actions for condition adverse to quality. Specifically, a failure of a 1E power supply resulted in technical specification equipment being powered from non-1E power and the licensee closed all corrective actions and work orders without correcting the adverse condition. The licensee entered this issue into the corrective action program as CR-2018-007972.</p>			

Failure to Perform Evaluations of State and Local Government Interface Based on Licensee Performance Indicators			
Cornerstone	Significance	Cross-cutting Aspect	Inspection Procedure
Emergency Preparedness	Green NCV 05000445; 05000446/2018004-04 Closed	None	71114.05 — Maintenance of Emergency Preparedness
<p>The inspectors identified a Green, non-cited violation of 10 CFR 50.54(t) for failure to evaluate the adequacy of interfaces with State and local governments based on assessment against performance indicators. Specifically, the licensee failed to develop and use performance indicators assessing the quality of the interface between licensee and State and local agencies in support of a 24-month review frequency for this aspect of the emergency preparedness program. The licensee entered the issue in the corrective action program in document CR-2018-008140.</p>			

PLANT STATUS

Unit 1 operated at or near rated thermal power for the entire inspection period.

Unit 2 began the inspection period at rated thermal power. On December 3, 2018, the unit was down powered to 95 percent due to an unplanned loss of the 138kV switchyard and actuation of auxiliary feedwater. The unit was returned to rated thermal power on the same day. On December 8, 2018, the unit was shut down to commence a refueling outage. The unit remained shutdown for the remainder of the inspection period.

INSPECTION SCOPES

Inspections were conducted using the appropriate portions of the inspection procedures (IPs) in effect at the beginning of the inspection unless otherwise noted. Currently approved IPs with their attached revision histories are located on the public website at <http://www.nrc.gov/reading-rm/doc-collections/insp-manual/inspection-procedure/index.html>.

Samples were declared complete when the IP requirements most appropriate to the inspection activity were met consistent with Inspection Manual Chapter (IMC) 2515, "Light-Water Reactor Inspection Program - Operations Phase." The inspectors performed plant status activities described in IMC 2515 Appendix D, "Plant Status" and conducted routine reviews using IP 71152, "Problem Identification and Resolution." The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel to assess licensee performance and compliance with Commission rules and regulations, license conditions, site procedures, and standards.

REACTOR SAFETY

71111.01 — Adverse Weather Protection

Seasonal Extreme Weather (1 Sample)

The inspectors evaluated readiness for seasonal extreme weather conditions prior to the onset of cold weather on December 8, 2018.

71111.04 — Equipment Alignment

Partial Walkdown (3 Samples)

The inspectors evaluated system configurations during partial walkdowns of the following systems/trains:

- (1) Common transformer XST2A after placement in service on November 7, 2018
- (2) Unit 1 train A battery during cell replacement on November 9, 2018
- (3) Unit 2 uninterruptible power supply (UPS) cooling during core offload on December 26, 2018

71111.05AQ — Fire Protection Annual/Quarterly

Quarterly Inspection (4 Samples)

The inspectors evaluated fire protection program implementation in the following selected areas:

- (1) Fire zone EC49 and EH56, Unit 1 battery room on November 8, 2018
- (2) Yard fire area, Transformer XST2A on November 9, 2018
- (3) Fire zone 2SK17A, Unit 2 feed injection room on November 28, 2018
- (4) Fire zone 2SD9, Unit 2 train A switchgear room on December 20, 2018

Annual Inspection (1 Sample)

The inspectors evaluated fire brigade performance on November 14, 2018.

71111.07 — Heat Sink Performance

Heat Sink (1 Sample)

The inspectors evaluated UPS chillers performance on December 19, 2018.

71111.08 — Inservice Inspection Activities (1 Sample)

The inspectors evaluated non-destructive testing by observing and reviewing the following activities:

- (1) Visual Testing 1
 - a) SW-2-AB-005-H3-WA, Station Service Water Hangar
- (2) Visual Testing 3
 - a) SW-2-AB-005-H3, Station Service Water Hangar
 - b) TCX-1-4202-H4, Safety Injection Hangar
 - c) TCX-1-4205-H25, Safety Injection Hangar
- (3) Ultrasonic Testing
 - a) TCX-1-4306-1, Reactor Coolant System T-to-Pipe Weld
 - b) TCX-1-4306-1, Reactor Coolant System Reducer-to-Pipe Weld
- (4) Penetrant Testing
 - a) TCX-2-2533-H6-WA, Safety Injection System Lugs
 - b) TCX-2-3100-1-1WS, Residual Heat Removal Pump 1 Lug

The inspectors evaluated the licensee's boric acid control program performance.

The inspectors evaluated the results of the licensee's bare metal visual inspection of the reactor vessel upper head penetrations. The inspectors also reviewed whether the required inspection coverage was achieved and whether limitations were properly recorded. The inspectors reviewed whether the personnel performing the inspection were certified examiners to their respective nondestructive examination method.

The inspectors evaluated the steam generator tube eddy current examination scope and criteria to determine whether it met technical specification requirements, Electric Power Research Institute guidelines, and commitments made to the NRC. The inspectors verified that the number and sizes of steam generator tube flaws/degradation identified was consistent with the licensee's previous outage operational assessment predictions. The inspectors confirmed that no repairs were required at the time of the inspection.

The inspectors verified that no new degradation mechanism was identified during the eddy current examinations.

The inspectors evaluated a sample of condition and issue reports associated with inservice inspection activities.

71111.11 — Licensed Operator Requalification Program and Licensed Operator Performance

Operator Requalification (1 Sample)

The inspectors observed and evaluated a crew during an evaluated simulator scenario on October 23, 2018.

Operator Performance (1 Sample)

The inspectors observed and evaluated operator performance during the following activities:

- (1) Unit 1 control room operators during a loss of 25KV power on October 15, 2018
- (2) Unit 2 control room operators during reactor shutdown on December 8, 2018
- (3) Unit 2 control room operators during core alterations on December 27, 2018

71111.12 — Maintenance Effectiveness

Routine Maintenance Effectiveness (2 Samples)

The inspectors evaluated the effectiveness of routine maintenance activities associated with the following equipment and/or safety-significant functions:

- (1) Unit 1 battery chargers on November 20, 2018
- (2) Unit 1 diesel generator jacket water on December 21, 2018

71111.13 — Maintenance Risk Assessments and Emergent Work Control (8 Samples)

The inspectors evaluated the risk assessments for the following planned and emergent work activities:

- (1) Unit 1 compensatory measures while replacing diesel generator 1-02 annunciator system power supply 1-EQ-3418 on October 16, 2018
- (2) Risk management actions during swap of transformer XST2 to XST2A on October 26, 2018
- (3) Unit 2 elevated risk during performance of diesel generator fuel transfer pump test on October 30, 2018

- (4) Unit 2 elevated risk during lithium flush using residual heat removal pump 2-01 on November 7, 2018
- (5) Risk management actions during Unit 1 battery cell replacement on November 9, 2018
- (6) Unit 1 elevated risk during turbine driven auxiliary feedwater valve stroke on November 29, 2018
- (7) Risk management for refueling outage 2RF17 defense in depth on December 7, 2018
- (8) Risk management actions during turbine stator lift on December 17, 2018

71111.15 — Operability Determinations and Functionality Assessments (5 Samples)

The inspectors evaluated the following operability determinations and functionality assessments:

- (1) Unit 1, replacement of diesel generator 1-02 annunciator system power supply on October 16, 2018
- (2) Unit 1, excessive battery charger ripple voltage on October 19, 2018
- (3) Unit 2, steam generator 2-01 low snubber oil reservoir level on October 24, 2018
- (4) Unit 2, component cooling water heat exchanger outlet temperature loop instrument calibration frequency on October 25, 2018
- (5) Unit 2, failure of transfer switch for bus XEC1 on November 27, 2018

71111.18 — Plant Modifications (2 Samples)

The inspectors evaluated the following temporary or permanent modifications:

- (1) Installation of transformer XST1A on November 27, 2018
- (2) Addition of battery cells to Unit 1 batteries on December 13, 2018

71111.19 — Post Maintenance Testing (4 Samples)

The inspectors evaluated the following post-maintenance tests:

- (1) Unit 1, containment air lock following relief valve replacement on October 17, 2018
- (2) Unit 1, battery 1-02 following cell replacement on November 19, 2018
- (3) Unit 1, turbine driven auxiliary feedwater isolation valve following repair on December 3, 2018
- (4) Unit 2, battery 2-01 following cell addition on December 18, 2018

71111.20 — Refueling and Other Outage Activities (Partial Sample)

The inspectors evaluated refueling outage 2RF17 activities from December 8, 2018, to December 31, 2018. The inspectors completed inspection Procedure 71111.20 Sections 03.01.a through c.

71111.22 — Surveillance Testing

The inspectors evaluated the following surveillance tests:

Routine (1 Sample)

(1) Unit 2, containment sump inspection on December 26, 2018

Containment Isolation Valve (1 Sample)

(1) Unit 2, safety injection check valves 2-8956A and 2-8956B on November 13, 2018

71114.02 — Alert and Notification System Testing (1 Sample)

The inspectors evaluated the maintenance and testing of the alert and notification system between March 1, 2016, and October 12, 2018.

71114.03 — Emergency Response Organization Staffing and Augmentation System (1 Sample)

The inspectors evaluated the readiness of the Emergency Response Organization between March 1, 2016, and October 12, 2018. The inspectors also evaluated the licensee's ability to staff their emergency response facilities in accordance with emergency plan commitments.

71114.04 — Emergency Action Level and Emergency Plan Changes (1 Sample)

The inspectors evaluated Emergency Plan, Revision 42, submitted on August 9, 2018. In addition, the inspector evaluated the 10 CFR 50.54(q) emergency plan change process and practices between March 1, 2016, and October 12, 2018. The evaluation reviewed screenings and evaluations documenting the implementation of this process. The reviews of the change process documentation and the Emergency Plan change do not constitute NRC approval.

71114.05 — Maintenance of Emergency Preparedness (1 Sample)

The inspectors evaluated the maintenance of the emergency preparedness program between March 1, 2016, and October 12, 2018. The evaluation reviewed activations of the emergency plan, the conduct of drills and exercises, licensee audits and assessments, and the maintenance of equipment important to emergency preparedness.

RADIATION SAFETY

71124.01 — Radiological Hazard Assessment and Exposure Controls

Radiological Hazard Assessment (1 Sample)

The inspectors evaluated radiological hazards assessments and controls.

Instructions to Workers (1 Sample)

The inspectors evaluated worker instructions.

Contamination and Radioactive Material Control (1 Sample)

The inspectors evaluated contamination and radioactive material controls.

Radiological Hazards Control and Work Coverage (1 Sample)

The inspectors evaluated radiological hazards control and work coverage.

High Radiation Area and Very High Radiation Area Controls (1 Sample)

The inspectors evaluated risk-significant high radiation area and very high radiation area controls.

Radiation Worker Performance and Radiation Protection Technician Proficiency (1 Sample)

The inspectors evaluated radiation worker performance and radiation protection technician proficiency.

71124.02 — Occupational As Low As Reasonably Achievable (ALARA) Planning and Controls

Implementation of ALARA and Radiological Work Controls (1 Sample)

The inspectors reviewed ALARA practices and radiological work controls by reviewing the following activities:

- (1) RWP 2018-2100, 2RF17 Radiation Protection (RP) Support in Containment
- (2) RWP 2018-2102, Locked High Radiation Area (LHRA) RP Balance of Plant (BOP)
- (3) RWP 2018-2214, Reactor Vessel Annulus, Seal Table Activities, Eddy Current Test
- (4) RWP 2018-2215, 2RF17 Scaffold Activities
- (5) RWP 2018-2601, Maintenance Activities

Radiation Worker Performance (1 Sample)

The inspectors evaluated radiation worker and radiation protection technician performance.

OTHER ACTIVITIES – BASELINE

71151 — Performance Indicator Verification (9 Samples)

The inspectors verified licensee performance indicators submittals listed below:

- (1) MS09: MSPI Residual Heat Removal Systems (10/01/2017–09/30/2018)
- (2) MS10: MSPI Cooling Water Support Systems (10/01/2017–09/30/2018)
- (3) EP01: Drill/Exercise Performance (DEP) Sample (07/01/2017 – 09/30/2018)
- (4) EP02: Emergency Response Organization (ERO) Drill Participation Sample (07/01/2017 – 09/30/2018)
- (5) EP03: Alert and Notification System (ANS) Reliability Sample (07/01/2017 – 09/30/2018)
- (6) OR01: Occupational Exposure Control Effectiveness Sample (04/01/2017 – 09/30/2018)
- (7) PR01: Radiological Effluent Technical Specifications/Offsite Dose Calculation Manual Radiological Effluent Occurrences (RETS/ODCM) Radiological Effluent Occurrences Sample (04/01/2017 – 09/30/2018)

71152 — Problem Identification and Resolution

Semiannual Trend Review (1 Sample)

The inspectors reviewed the licensee’s corrective action program for trends associated with the failure to follow the requirements of station Procedure STA-206, “Review of Vendor Documents and Vendor Technical Manuals,” that might be indicative of a more significant safety issue.

Annual Follow-up of Selected Issues (2 Samples)

The inspectors reviewed the licensee’s implementation of its corrective action program related to the following issues:

- (1) Post-accident-monitoring system unavailable for greater than 30 days on December 20, 2018
- (2) Non-conservative calculation for steam generator water level limits on November 21, 2018

71153 — Follow-up of Events and Notices of Enforcement Discretion

Personnel Performance (1 Sample)

The inspectors evaluated loss of 138kV and actuation of Unit 2 AFW and the licensee’s performance on December 2, 2018.

INSPECTION RESULTS

Programmatic Failures Related to Procedures for the Control Transient Combustibles			
Cornerstone	Significance	Cross-cutting Aspect	Report Section
Mitigating Systems	Green NCV 05000446/2018004-01 Closed	H.2 - Field Presence	71111.05AQ — Fire Protection
<p>The inspectors identified a Green, non-cited violation of Operating License NPF-89, License Condition 2.G, "Fire Protection Program," for the failure to control transient combustibles in accordance with the station's Fire Protection Report.</p> <p><u>Description:</u> From December 10-20, 2018, the inspectors performed walkdowns of the plant. During these walkdowns, the inspectors observed the following conditions:</p> <ol style="list-style-type: none"> 1. Quantities of plastic, oily rags, and cardboard that remained in the plant after end of shift. The initial response provided when the issue was brought to licensee personnel was that the work was still in progress; therefore, the material could be stored in the various locations. 2. Three cans of combustible liquids and a quantity of flammable aerosols not in flammable liquid storage lockers or under the control of individuals. The initial response from the licensee was that per STA-728, "Storage And Handling Of Flammable/ Combustible Material and Compressed/Cryogenic Gases," Revision 5, Section 6.1.9, flammable/combustible liquids which are incidental to an activity and kept in an area do not have to be kept in an approved storage area or cabinet if the on-hand amount is: <ol style="list-style-type: none"> a. 10 Gallons or less of flammable/combustible liquids in the original manufacturer's container and/or in safety cans; or b. 25 Gallons or less of flammable/combustible liquids in safety cans. If the on-hand quantity of flammable/combustible liquids exceeds these quantities, the materials should be kept in an approved storage area in accordance with Section 6.2. <p>The inspectors reviewed Station Procedure STA-728, "Storage of Combustible and Flammable Liquids," and STA-729, "Control of Transient Combustibles, Ignition Sources and Fire Watches," Revision 11, which are the procedures used by the licensee to control transient combustibles in the plant. The inspectors noted that these procedures contained the following definitions and requirements:</p> <ul style="list-style-type: none"> • STA-729, Section 6.1.5, states, in part, that, "Debris and waste such as flammable liquids, plastics, HEPA filters, Bituminous filter medium, oily rags, and other combustible supplies resulting from work activities shall be removed from plant areas at the end of each work activity or at the end of each shift, whichever is sooner. Plastic materials should only be used when alternate non-combustible materials are not available." <p>Contrary to this requirement, the licensee allowed quantities of plastic, oily rags, and cardboard to remain in the plant after end of shift.</p>			

- Procedure STA-729, Section 4.21, defines Incidental transient combustible material, in part, as “hand carried items directly under an individual’s control and that are attended by an individual at all times while within the power block.” However, Procedure STA-728, Section 6.1.9, states that flammable/combustible liquids which are incidental to an activity and kept in an area do not have to be kept in an approved storage area or cabinet.
- Procedure STA-728 provides the following definitions:
 - 4.5 Combustible Liquid - Any liquid with a flash point at or above 100 degrees F.
 - 4.10 Flammable Liquid - A liquid having a flash point of not more than 93 degrees C. (199.4 degrees F).

This definition for flammable liquid implies that a combustible liquid is a greater hazard than a flammable liquid and is in conflict with the definition provided in STA 729.

Procedure STA-729 contains the following definition for flammable liquid:

- 4.12 Flammable Liquid - Any liquid with a flash point below 100 degrees F and a vapor pressure that does not exceed 40 psia at 100 degrees F (i.e., acetone, alcohols, gasoline, etc.).

Inspectors determined that the definition contained in STA-729 aligned with the definition contained in NFPA-30 which is the standard identified in the station’s approved Fire Protection Report, and that the STA-728 definition aligns with an OSHA definition which is not part of the station’s approved Fire Protection Report. Therefore, the inspectors determined that the information in STA-728 was contrary to the station’s approved licensing basis.

Inspectors also noted that STA-728 delineates the following responsibilities:

- 5.1 Department managers/supervisors are responsible for the safe handling and storage of all flammable/combustible materials and compressed gases assigned to or in use by their departments.
- 5.3 Fire protection maintenance supervisor is responsible for the inspection and authorization of all flammable/combustible material and compressed gas storage areas.

Based on these observations, and review of two of the fire protection procedures, the inspectors determined that the licensee had failed to implement the requirements of the station’s approved Fire Protection Program when storing and controlling combustible materials.

Corrective Action(s): The licensee removed the combustible materials from the impacted areas, and/or established appropriate compensatory measures in accordance with the Fire Protection Program and entered the procedure conflicts and discrepancies into the corrective action program.

Corrective Action Reference: Document CR-2018-008405

Performance Assessment:

Performance Deficiency: The licensee's failure to control transient combustible material in accordance with the approved Fire Protection Program is a performance deficiency.

Screening: The inspectors determined the performance deficiency was more than minor, and therefore a finding, because it was associated with the protection against the external factors attribute of the Mitigating System Cornerstone and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the failure of licensee personnel to implement proper control of transient combustible materials decreased the external event mitigation for fire prevention. Furthermore, the inspectors determined that this was a programmatic issue since multiple departments and multiple levels of management were responsible for the inappropriate control of combustible materials in the plant and the conflicting information in Procedures STA-728 and STA-729.

Significance: The inspectors assessed the significance of the finding using Inspection Manual Chapter 0609, Attachment 04, "Initial Characterization of Findings," dated October 7, 2016, and Inspection Manual Chapter 0609, Appendix F, "Fire Protection Significance Determination Process," May 02, 2018, and determined that the finding was of very low safety significance (Green) because the identified fire prevention and administrative controls issues would not prevent the reactor from reaching and maintaining a safe shutdown condition because none of the examples impacted both trains of safe shutdown equipment.

Cross-Cutting Aspect: The finding has a cross-cutting aspect in the area of human performance, field presence, because leaders failed to reinforce standards and expectations [H.2].

Enforcement:

Violation: Comanche Peak Unit 2, Operating License NPF-89, Condition 2.G, "Fire Protection," requires, in part, that the licensee implement and maintain in effect all provisions of the approved fire protection program as described in the Final Safety Analysis Report through Amendment 87 and as approved in the Safety Evaluation Report and its supplements through Supplement 27.

The station's approved fire protection program includes Fire Protection Report, Revision 29, which is implemented by Procedures STA-728, "Storage of Combustible and Flammable Liquids," and STA-729, "Control of Transient Combustibles, Ignition Sources and Fire Watches," to control transient and other combustible/flammable materials.

Contrary to the above, between December 10 and December 20, 2018, the licensee failed to implement and maintain in effect all provisions of the approved fire protection program as described in the Final Safety Analysis Report through Amendment 87 and as approved in the Safety Evaluation Report and its supplements through Supplement 27. Specifically, the licensee allowed storage of combustible materials contrary to the requirements of Procedures STA-728, "Storage of Combustible and Flammable Liquids," and STA-729, "Control of Transient Combustibles, Ignition Sources and Fire Watches."

Enforcement Action(s): This violation is being treated as an NCV, consistent with Section 2.3.2 of the Enforcement Policy.

Inadequate Procedure for Alignment of Priority Panels Normally Aligned to Class 1E Power			
Cornerstone	Significance	Cross-cutting Aspect	Report Section
Mitigating Systems	Green Severity Level IV NCV 05000445;05000446/2018004-02 Closed	None	71111.15 — Operability Determinations and Functionality Assessments
<p>The inspectors identified a Green, Severity Level IV, non-cited violation of Technical Specification 5.4.1.a associated with the failure to establish, implement, and maintain procedures for operation and maintenance of electrical systems, which are recommended in Regulatory Guide 1.33, Revision 2, Appendix A, February 1978.</p>			
<p><u>Description:</u> The inspectors found that the licensee had a common 120 V power panel, panel XEC1, aligned to its off-normal non-Class-1E power source. The panel is normally powered from Class-1E 480 V panel XEB3-2, but is capable of being aligned to non-Class-1E panel XB2-2 using Procedure SOP-608A, “120, 208, 208/120 and 120/240 VAC Distribution System.” Panel XB2-2 is, in turn, normally powered by Unit 1 non-Class-1E bus 1B2. In August 2016, after performing maintenance with XEC1 aligned to the non-Class-1E power source (XB2-2), the licensee was unable to restore XEC1 to its normal Class-1E source due to a failure of its transfer switch. The licensee left the panel aligned to XB2-2 and entered the failure into the corrective action program.</p> <p>When the licensee reviewed the condition for its impact to operability and functionality on September 2, 2016, the licensee determined that the supported equipment was operable because XEC1 was “energized from its maintenance bypass power source which is allowed per SOP-608A.” The inspectors reviewed Procedure SOP-608A and concluded that the procedure was inadequate because, in establishing the procedural guidance to align XEC1 to a non-Class-1E alternate source, the licensee did not consider the impact of the alignment to the non-Class-1E power source on the current licensing basis of the safety-related and important-to-safety equipment supported by XEC1, and did not identify that compensatory measures were needed to support a determination of operability and functionality of the supported equipment.</p> <p>The inspectors determined that the procedure section for alignment of XEC1 contained guidance for maintenance that can affect the performance of safety-related equipment, and that it was required by Regulatory Guide 1.33, Revision 2, Appendix A, Section 9. The procedure contained no guidance for ensuring that safety-related and important-to-safety equipment maintained their operability and functionality during the non-Class-1E power alignment.</p> <p>The inspectors identified several safety-related and important-to-safety systems, structures and components (SSCs) that were affected by aligning XEC1 to non-Class-1E power. Some of the affected SSCs required the implementation of compensatory measures to ensure operability and functionality, but the licensee had not identified and implemented these compensatory measures when SOP-608A was implemented to align XEC1 to non-Class-1E power.</p>			

- The solid state protection system (SSPS) relay that actuates the containment vent isolation (CVI) system for Unit 1 is powered by XEC1. During the time that XEC1 was aligned to non-Class-1E power, a failure of non-Class-1E power to XB2-2 would cause a failure of a protection system required to be operable by Technical Specification 3.3.6, "Containment Ventilation Isolation Instrumentation." The containment pressure relief system is a system required during normal operations to maintain containment pressure within the limits of Technical Specification 3.6.4, and compensatory measures are required to maintain operability while XEC1 is aligned to non-Class-1E power.
- Several radiation monitors required to be operable by the Offsite Dose Calculation Manual are powered by XEC1. While XEC1 is powered from non-Class-1E power, compensatory measures are required to maintain the operability of these monitors.
 - The Unit 2 station service water liquid effluent monitors 2-RUK-4269 and 2-RUK-4270 are required to be operable by ODCM Technical Specification (TS) 3.3.3.4, "Radioactive Liquid Effluent Instrumentation." If either of them were to be inoperable, the ODCM required the licensee to monitor the component cooling water liquid effluent monitors. However, all three of those monitors are also powered by XEC1. This resulted in a condition where the only way to comply with the ODCM in the event of a loss of non-safety power to XB2-2 would be to perform manual samples as compensatory measures.
 - The liquid effluent monitors for the Unit 1 turbine building sump and the auxiliary building discharge are powered from XEC1 and required to be operable by ODCM TS 3.3.3.4. A loss of power to these monitors would require manual compensatory measures.
- Several radiation monitors used as inputs to emergency action level declarations are powered from XEC1. While XEC1 is powered from non-Class-1E power, compensatory measures are required to maintain the functionality of these inputs to the emergency plan.
 - The gross failed fuel monitor is powered from XEC1 and is used to classify an unusual event, or an alert for a loss of the fuel cladding barrier.
 - The Unit 2 station service water liquid effluent monitors 2-RUK-4269 and 2-RUK-4270 are used to classify an unusual event. The component cooling water radiation monitors would normally be used as a backup; however, they are also powered by XEC1.
- Several radiation monitors required to function post-accident by 10 CFR 50, Appendix A, Criteria 13 and 64, and designated as Category 2 in accordance with Regulatory Guide 1.97, Revision 2, are powered by XEC1, and are required to be powered by a "highly reliable" power source. While XEC1 is powered from non-Class-1E, these monitors do not meet the power supply requirements. These monitors include the Unit 1 condenser off-gas monitor, the Unit 2 steam generator blowdown line monitor, the auxiliary building discharge monitor, and the Unit 1 turbine

building sump monitor. Compensatory actions would be required to monitor these Category 2 variables during an accident.

- Several fire detection panels receive power from XEC1. In addition, the control panel for halon actuation is powered from XEC1. Compensatory measures would be required upon loss of power to XEC1.
- The solid state isolation cabinets 1-CR-07, 1-CR-16, and 2-CR-07 receive AC power from XEC1. These cabinets are safety-related and require Class 1E power.
- The control room ventilation communication isolation devices X-RY-5895A-2 and X-RY-5895B are powered by XEC1. These devices are safety-related and require Class 1E power.
- The loose parts monitoring system is powered from XEC1 and is required to be operable by the Technical Requirements Manual.

The inspectors reviewed the 50.59 screen performed to evaluate the change to the procedure allowing alignment to non-Class-1E maintenance bypass power. The inspectors found that the screen simply stated that it was being done to incorporate modification DM 95-097, "Maintenance Bypass Transformer TXEC1/2," and that the changes done for the modification governed energizing, de-energizing and transferring operations. Inspectors then reviewed the 50.59 performed for DM 95-097 and determined that the licensee had failed to identify the impact to Unit 1 technical specifications associated with the SSPS relay since power panel XB2-2 could be powered from Unit 2. Specifically, this allowed lineup creates the possibility of a cross-unit interaction where a failure of non-safety power on Unit 2 would cause a failure of the Unit 1 protection system required to be operable by Technical Specification 3.3.6, "Containment Ventilation Isolation Instrumentation." Inspectors determined that this potential for cross-unit interaction represented a change to technical specifications that was not recognized by the licensee.

Additionally, the inspectors determined that the licensee had failed to fully consider the licensing basis impact to the important-to-safety equipment affected by changing power supplies. The licensee failed to consider the impact to technical specifications and on the current licensing basis for all of the above functions and failed to recognize that compensatory measures for many of these functions were required while panel XEC1 was aligned to its alternate non-Class-1E power source.

Corrective Action(s): The licensee subsequently reevaluated operability and identified necessary compensatory measures to maintain a reasonable assurance of operability and functionality of the impacted systems.

Corrective Action References: Document CR-2018-006180 and CR-2019-001052

Performance Assessment:

Performance Deficiency: The licensee's failure to maintain a procedure recommended by Regulatory Guide 1.33, Revision 2, Appendix A and implement the requirements of 10 CFR 50.59 to adequately evaluate changes to determine if prior NRC approval is required was a performance deficiency.

Screening: The inspectors identified that multiple cornerstones were affected by this performance deficiency. Since the emergency preparedness cornerstone is not used if another cornerstone is impacted, the inspectors determined that mitigating systems was the appropriate cornerstone because the spurious actuations, failed equipment, and additional compensatory actions would most likely affect the ability of operators to mitigate an event. The inspectors determined the performance deficiency was more than minor because it adversely affected the equipment performance attribute of the Mitigating Systems Cornerstone and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). Specifically, the procedure inadequacies resulted in a non-conforming condition affecting safety-related and important-to-safety equipment going unrecognized for 2 years without identifying the need for compensatory measures.

Significance: The inspectors assessed the significance of the finding using Inspection Manual Chapter 0609, Attachment 04, "Initial Characterization of Findings," dated October 7, 2016, and Inspection Manual Chapter 0609, Appendix A, "Significance Determination Process for Findings At-Power," Exhibit 2, "Mitigating System Screening Questions," and determined the finding was of very low safety significance (Green) because it was a deficiency affecting the design or qualification of a mitigating SSCs, but the SSCs maintained their operability or functionality.

Cross-cutting Aspect: The finding was not assigned a cross-cutting aspect because the finding was not indicative of present performance.

Enforcement:

Severity: The ROP's significance determination process does not specifically consider the regulatory process impact in its assessment of licensee performance. Therefore, it is necessary to address this violation which impedes the NRC's ability to regulate using traditional enforcement to adequately deter non-compliance.

The inspectors assessed the severity level in accordance with the NRC Enforcement Policy, dated May 15, 2018, and determined that the violation was Severity Level IV because it was a violation of 10 CFR 50.59 that resulted in conditions evaluated as having very low safety significance (Green) by the significance determination process.

Violation: Technical Specification 5.4.1.a requires, in part, that written procedures shall be established, implemented, and maintained covering the procedures recommended in Regulatory Guide 1.33, Revision 2, Appendix A, February 1978. Regulatory Guide 1.33, Revision 2, Appendix A, February 1978, Section 9, recommends procedures for activities involving maintenance that can affect the performance of safety-related equipment.

Title 10 CFR 50.59, "Changes, Tests, and Experiments," Section (c)(1), states, in part, that a licensee may make changes in the facility as described in the Updated Safety Analysis Report without obtaining a license amendment pursuant to 10 CFR 50.90 only if a change to the technical specifications incorporated in the license is not required.

Contrary to the above, from November 1997 to December 2018, the licensee failed to: 1) adequately maintain a written procedure for maintenance that can affect the performance of safety-related equipment and 2) obtain a license amendment pursuant to Section 50.90 prior to implementing a proposed change, test, or experiment if the change, test, or experiment would

result in a change to the technical specifications incorporated in the license. Specifically, the licensee failed to include adequate guidance in Procedure SOP-608A to implement appropriate compensatory measures for supported equipment when aligning alternate power to XEC1 in support of maintenance and failed to recognize the change in technical specifications resulting from the cross-unit interaction created by powering XEC1 from Unit-2 non-Class-1E power.

Enforcement Action(s): This violation is being treated as an NCV, consistent with Section 2.3.2 of the Enforcement Policy.

Failure to Correct a Condition Adverse to Quality

Cornerstone	Significance	Cross-cutting Aspect	Report Section
Mitigating Systems	Green NCV 05000445;05000446/2018004-03 Closed	H.5 – Work Management	71111.15 — Operability Determinations and Functionality Assessments

The inspectors identified a Green, non-cited violation of 10 CFR Part 50, Appendix B, Criterion XVI, “Corrective Action,” for the licensee’s failure to take corrective actions for a condition adverse to quality. Specifically, a failure of a Class-1E power supply resulted in technical specification equipment being powered from non-Class-1E power and the licensee closed all corrective actions and work orders without correcting the adverse condition.

Description: The inspectors found that the licensee had a common 120 V power panel, panel XEC1, aligned to its off-normal non-Class-1E power source. The panel is normally powered from Class-1E 480 V panel XEB3-2, but is capable of being aligned to non-Class-1E panel XB2-2 using Procedure SOP-608A, “120, 208, 208/120 and 120/240 VAC Distribution System.” Panel XB2-2 is, in turn, normally powered by Unit 1 non-Class-1E bus 1B2. In August 2016, after performing maintenance with XEC1 aligned to the alternate non-Class-1E power source, the licensee was unable to restore XEC1 to its normal Class-1E source due to a failure of its transfer switch. The licensee left the panel aligned to XB2-2 and entered the failure into their corrective action program as CR-2016-007907. The inspectors noted that while the transfer switch is not quality related, panel XEC1 provides power to some loads that are quality related and required to be powered by Class-1E power. Therefore, the inspectors concluded that being unable to power these loads from Class-1E power was a condition adverse to quality.

The licensee generated a work order to troubleshoot and repair the transfer switch for XEC1, Work Order 5331282, and then closed the condition report. Work Order 5331282 was then voided to Work Order 5220567. However, Work Order 5220567 was a work order to troubleshoot the transfer switch for XEC2. As a result, no condition reports, corrective actions, or work orders remain open to correct the XEC1 transfer switch failure.

Corrective Action(s): The licensee revised Work Order 5220567 to include actions to correct the failure of the transfer switch for XEC1.

Corrective Action Reference(s): Document CR-2018-007972

Performance Assessment:

Performance Deficiency: The licensee's failure to take corrective actions to correct a condition adverse to quality was a performance deficiency.

Screening: The inspectors identified that multiple cornerstones were affected by this performance deficiency. Since the emergency preparedness cornerstone is not used if another cornerstone is impacted, the inspectors determined that mitigating systems was the appropriate cornerstone because the spurious actuations, failed equipment, and additional compensatory actions would most likely affect the ability of operators to mitigate an event. The inspectors determined the performance deficiency was more than minor because it adversely affected the equipment performance attribute of the Mitigating Systems Cornerstone and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). Specifically, the failure to correct the condition resulted in a non-conforming condition affecting safety-related and important-to-safety equipment going uncorrected for 2 years.

Significance: The inspectors assessed the significance of the finding using Inspection Manual Chapter 0609, Attachment 04, "Initial Characterization of Findings," dated October 7, 2016, and Inspection Manual Chapter 0609, Appendix A, "Significance Determination Process for Findings At-Power," Exhibit 2, "Mitigating System Screening Questions," and determined the finding was of very low safety significance (Green) because it was a deficiency affecting the design or qualification of a mitigating SSCs, but the SSCs maintained their operability or functionality.

Cross-cutting Aspect: The finding was assigned a cross-cutting aspect of work management because the licensee failed to plan, control, and execute work activities such that nuclear safety was the overriding priority [H.5].

Enforcement:

Violation: Title 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action" requires, in part, that measures shall be established to assure that conditions adverse to quality are promptly identified and corrected.

Contrary to the above, from August 2016 until December 2018, a condition adverse to quality was not promptly corrected. Specifically, the alignment of a support system for quality related equipment to non-Class-1E power, a non-conforming condition, existed for 2 years with no planned or completed corrective actions.

Enforcement Action(s): This violation is being treated as an NCV, consistent with Section 2.3.2 of the Enforcement Policy.

Failure to Perform Evaluations of State and Local Government Interfaces Based on Licensee Performance Indicators			
Cornerstone	Significance	Cross-cutting Aspect	Report Section
Emergency Preparedness	Green NCV 05000445, 05000446/2018004-04 Closed	None	71114.05 — Maintenance of Emergency Preparedness
<p>The inspectors identified a Green, non-cited violation of 10 CFR 50.54(t) for failure to evaluate the adequacy of interfaces with State and local governments based on assessment against performance indicators. Specifically, the licensee failed to develop and use performance indicators assessing the quality of the interface between licensee and State and local agencies in support of a 24 month review frequency for this aspect of the emergency preparedness program.</p>			
<p><u>Description:</u> Title 10 CFR 50.54(t) requires each reactor licensee to provide a periodic independent review of their emergency preparedness program. It requires the independent review at a default periodicity of 12 months, including adequacy reviews of the interfaces with State and local governments and licensee drills, exercises, capabilities, and procedures.</p> <p>The regulation was revised on March 29, 1999, to provide licensees the option to change the frequency of independent evaluations of their emergency preparedness programs (64 FR 14814). The amendment allowed licensees to conduct reviews at intervals not to exceed 24 months, based on an assessment of the program against performance indicators and after changes that could adversely affect the emergency preparedness program.</p> <p>The inspectors reviewed a sample of the licensee’s audit reports. It was observed that the evaluation conducted in 2017, documented in EVAL-2017-003 (dated April 18, 2017), only addressed specific corrective action documents, procedures, and training issues, which represented only a portion of the emergency preparedness program elements. Similar audits conducted in 2016 and 2018 addressed all emergency preparedness program elements.</p> <p>The inspectors asked why the review scope in 2017 was different. The licensee stated that the scope was based on an audit scope evaluation performed in association with action tracking document TR-2016-010885. Specifically, the scope was based on a review of performance indicators as specified in 10 CFR 50.54(t)(1)(ii); the inspector determined the licensee used the NRC Reactor Oversight Program (ROP) emergency preparedness performance indicators.</p> <p>The inspectors noted that the NRC ROP emergency preparedness performance indicators were developed after the revision to 10 CFR 50.54(t) and had been designed for a purpose other than the audit program. Consequently, the ROP emergency preparedness performance indicators do not address all of the required evaluation elements; further, they provide no means of assessing the site’s performance with regards to maintaining appropriate State/local government communications and interactions. The inspector concluded that extending the audit frequency for evaluating the site’s interface with State and local agencies to 24 months without basis (supported by performance indicators) could lead to issues in this area not being discovered and corrected in a timely manner.</p> <p>The inspectors found that the licensee decided to implement the 24-month review option in 2000. To support this, the licensee decided to use the NRC ROP emergency preparedness performance indicators to make their scope of evaluation decisions as documented in</p>			

assessment EVAL-2001-042 (October 12, 2001). There was no indication that the licensee developed any performance indicators to monitor this State/local interface program element. The inspectors concluded that the licensee did not have a basis for extending the review to 24 months because of the lack of an appropriate performance indicator assessing the adequacy of interfaces with State and local governments. In addition, the licensee failed to provide offsite response organizations the opportunity to provide comments or concerns about the quality of the interface between licensee staff and offsite responders in odd numbered years between 2001 and 2017.

Corrective Action(s): The licensee entered these issues into the corrective action program.

Corrective Action Reference(s): CR-2018-008140

Performance Assessment:

Performance Deficiency: The inspectors determined that the failure to develop and use performance indicators assessing the quality of the interface between licensee and State and local agencies in support of a 24-month independent review frequency was a performance deficiency.

Screening: The performance deficiency was determined to be more than minor, and therefore a finding, because it was associated with the offsite emergency preparedness attribute of the Emergency Preparedness Cornerstone and adversely affected the cornerstone objective to ensure that the licensee is capable of implementing adequate measures to protect the health and safety of the public in the event of a radiological emergency. Specifically, the ability to implement adequate measures to protect the health and safety of the public could be affected if communication and coordination problems between the licensee and offsite agencies are not detected and corrected.

Significance: Using Manual Chapter 0609, "Significance Determination Process," Attachment 4, Tables 1, 2, and 3 worksheets (effective date October 7, 2016); and the corresponding Appendix B, "Emergency Preparedness Significance Determination Process," Attachment 2 (issue date September 22, 2015); the performance deficiency was determined to have very low safety significance (Green) because it was a failure to comply with NRC requirements, was not a loss of planning standard function, and was not a degraded risk-significant planning standard function.

Cross-Cutting Aspect: As the licensee developed the audit performance indicators in 2001, no cross-cutting aspect was assigned to this finding because the inspectors determined the finding did not reflect present licensee performance.

Enforcement:

Violation: Title 10 CFR 50.54(t)(1) requires, in part, that the licensee shall ensure that all emergency preparedness program elements are reviewed at intervals not to exceed 12 months or, as necessary, based on an assessment against performance indicators, at least once every 24 months. Title 10 CFR 50.54(t)(2) requires, in part, the review must include an evaluation for adequacy of interfaces with State and local governments.

Contrary to the above, from October 12, 2001, to April 18, 2017, the licensee's periodic emergency preparedness review failed to include an evaluation for adequacy of interfaces with State and local governments at an interval not exceeding 12 months or against performance

indicators at least once every 24 months. Specifically, evaluations conducted in odd numbered years did not evaluate State and local agency interface and the licensee had not developed a performance indicator designed to measure the licensee's performance in that area to support extending the periodicity of this element's review to 24 months.

Enforcement Action(s): This violation is being treated as a non-cited violation, consistent with Section 2.3.2.a of the Enforcement Policy.

EXIT MEETINGS AND DEBRIEFS

The inspectors verified no proprietary information was retained or documented in this report.

On October 19, 2018, the inspectors provided a debrief for the emergency preparedness program inspection to Mr. K. Peters, Senior Vice President and Chief Nuclear Officer, and other members of the licensee staff. On December 6, 2018, the inspectors communicated the inspection results telephonically to Mr. T. McCool, Site Vice President, and other members of the licensee staff.

On December 14, 2018, the inspectors presented the baseline radiation safety inspection results to Mr. T. McCool, Site Vice President, and other members of the licensee staff.

On December 20, 2018, the inspectors presented the inservice inspection results to Mr. T. McCool, Site Vice President, and other members of the licensee staff.

On January 31, 2019, the inspectors presented the quarterly resident inspector inspection results to Mr. T. McCool, Site Vice President, and other members of the licensee staff.

The inspectors verified that no proprietary information was retained or documented in this report.

DOCUMENTS REVIEWED

71111.05AQ — Fire Protection Annual/Quarterly

Condition Reports

CR-2018-008405 CR-2017-009039 TR-2018-001479

Procedures

Number	Title	
STA-728	Storage of Combustible and Flammable Liquids	12
STA-729	Control of Transient Combustibles, Ignition Sources and Fire Watches	11

Miscellaneous Documents

Number	Title
	Transient Combustible Permit 16673
	Transient Combustible Permit 15617
	Transient Combustible Permit 15481

71111.08 — Inservice Inspection Activities (Unit 2)

Condition Reports (CR)

CR-2016-001706 CR-2016-010133 CR-2017-009039 CR-2017-010906 CR-2017-011526
CR-2017-011619 CR-2017-011968 CR-2017-012371 CR-2017-012392 CR-2017-012859
CR-2018-000500 CR-2018-003983 CR-2018-008319

Work Orders

5305016 5433695 5479235 5479236 5580729 5258912

Procedures Number	Title	Revision
STA-729	Control Of Transient Combustibles, Ignition Sources, and Fire Watches	12
CP-201	Comanche Peak Steam Electric Station Welding Procedure Specification	10
CP-301	Comanche Peak Steam Electric Station Welding Procedure Specification	
CP-315	Comanche Peak Steam Electric Station Welding Procedure Specification	6
CP-325	Comanche Peak Steam Electric Station Welding Procedure Specification	0
TX-ISI-IWL	Concrete Structure Visual Examination	6
TX-ISI-IWE	Metal Containment Visual Examination	5
TX-ISI-305	Straight Beam Ultrasonic Examination of Studs and Bolts in Accordance with PDI-UT-5	2
TX-ISI-302	Ultrasonic Examination of Austenitic Piping Welds	5
TX-ISI-301	Ultrasonic Examination of Ferritic Piping Welds	5
TX-ISI-88	Underwater Remote Visual Examination of Reactor Vessel and Internals	4
TX-ISI-8	VT-1 and VT-3 Visual Examination Procedure	10
TX-ISI-11	Liquid Penetrant Examination for Comanche Peak Nuclear Power Plant	17
STA-737	Boric Acid Corrosion Detection And Evaluation	8
STI-737.01	Boric Acid Corrosion Detection And Evaluation	0

71111.15 — Operability Determinations and Functionality Assessments

Condition Reports

CR-2016-007907	CR-2018-006180	TR-2016-002742	CR-2015-008236
CR-2018-007972	TR-2016-008960	TR-2017-000169	

Work Orders

5144575 5220567 5331282 5347463 5377428

Procedures Number	Title	Revision
STI-422.01	Operability Determination and Functionality Assessment Program	4
SOP-608A	120, 208, 208/120 and 120/240 VAC Distribution System	11

Drawings Number	Title	Revision
E1-0018-01	208/120V AC One Line Diagram	CP-51
E1-0018-01A	208/120V AC One Line Diagram	CP-17

Miscellaneous Documents Number	Title	Date
DM 95-097	Maintenance Bypass Transformer TXEC1/2	Jan. 28, 1998

71114.02 — Alert and Notification System Testing

Condition Reports

CR-2018-001905 TR-2018-008103

Procedures Number	Title	Revisions
SG-012	Alert and Notification System Surveillance	24, 25
EPP-100	Maintaining Emergency Preparedness	11

Miscellaneous Documents Number	Title	Revision
	Comanche Peak Nuclear Power Plant, Alert and Notification System Design Report	2

71114.03 — Emergency Response Organization Staffing and Augmentation System

Condition Reports (TR)

TR-2018-007163

Procedures Number	Title	Revision
SG-005	Quarterly Augmentation Verification of the Emergency Response Organization (ERO)	14

Miscellaneous Documents Number	Title	Date
SG-005, Attachment 1	Quarterly Augmentation Verification Results	March 30, 2016
SG-005, Attachment 1	Quarterly Augmentation Verification Results	July 6, 2016
SG-005, Attachment 1	Quarterly Augmentation Verification Results	September 22, 2016
SG-005, Attachment 1	Quarterly Augmentation Verification Results	January 10, 2017
SG-005, Attachment 1	Quarterly Augmentation Verification Results	March 13, 2017
SG-005, Attachment 1	Quarterly Augmentation Verification Results	June 22, 2017
SG-005, Attachment 1	Quarterly Augmentation Verification Results	September 6, 2017
SG-005, Attachment 1	Quarterly Augmentation Verification Results	December 14, 2017
SG-005, Attachment 1	Quarterly Augmentation Verification Results	March 12, 2018
SG-005, Attachment 1	Quarterly Augmentation Verification Results	September 10, 2018

71114.04 — Emergency Action Level and Emergency Plan Changes

Procedures Numbers	Title	Revisions
EPP-123	10 CFR 50.54(q) Screening and Evaluation of Changes to Emergency Plan Documentation	1, 2

Miscellaneous Documents Number	Title	Revision or Date
CP-201800479	Comanche Peak Nuclear Power Plant, Docket Nos. 50-455, 50-446 and 72-74; Transmittal of Revised Emergency Plan	August 9, 2018
2016-00283-1	Comanche Peak Nuclear Power Plant 10 CFR 50.54(q)(3) Screening Evaluation Form, Condition Report No.: CR-2016-000283; Activity No. AI-CR-2016-000283-1	November 17, 2016
2016-00283-10	Comanche Peak Nuclear Power Plant 10 CFR 50.54(q)(3) Screening Evaluation Form, Condition Report Nos.: CR-2014-012646, CR-2016-000283; Activity Nos. EV-2014-0012646-9 and AI-2016-000283-10	November 17, 2016
2016-000283-1	Comanche Peak Nuclear Power Plant 10 CFR 50.54(q)(3) Effectiveness Evaluation Form, Condition Report Nos.: CR-2015-005680, CR-2016-000283; Activity No.: AI-CR-2015-005680-3, AI-CR-2016-000283-1	November 17, 2016
2018-001581-10	Comanche Peak Nuclear Power Plant 10 CFR 50.54(q)(3) Screening Evaluation Form, Condition Report No.: 2018-001581; Activity No. 2018-001581-10	April 26, 2018
2018-001581-11	Comanche Peak Nuclear Power Plant 10 CFR 50.54(q)(3) Screening Evaluation Form, Condition Report No.: 2018-001581; Activity No. IR-2018-001581-11	June 14, 2018
2018-001581-10	Comanche Peak Nuclear Power Plant 10 CFR 50.54(q)(3) Effectiveness Evaluation Form, Condition Report No.: 2018-001581; Activity No. 2018-001581-10	June 14, 2018
2018-001581-11	Comanche Peak Nuclear Power Plant 10 CFR 50.54(q)(3) Effectiveness Evaluation Form, Condition Report No.: 2018-001581; Activity No. 2018-001581-11	June 14, 2018
2016-001187-1	Comanche Peak Nuclear Power Plant 10 CFR 50.54(q)(3) Screening Evaluation Form, Condition Report Nos.: 2016-001187; TR-2016-000283	December 5, 2016
2016-001187-1	Comanche Peak Nuclear Power Plant 10 CFR 50.54(q)(3) Effectiveness Evaluation Form, Condition Report Nos.: 2016-001187; TR-2016-000283	December 5, 2016

2016-001102-1	Comanche Peak Nuclear Power Plant 10 CFR 50.54(q)(3) Screening Evaluation Form, Condition Report Nos.: 2016-001102; 2015-000362	February 18, 2016
2016-001102-1	Comanche Peak Nuclear Power Plant 10 CFR 50.54(q)(3) Effectiveness Evaluation Form, Condition Report Nos.: 2016-001102; 2015-000362	February 18, 2016
2018-001581-2	Comanche Peak Nuclear Power Plant 10 CFR 50.54(q)(3) Screening Evaluation Form, Condition Report Nos.: TR-2016-004376; TR-2018-001581	March 20, 2018
2018-001581-2	Comanche Peak Nuclear Power Plant 10 CFR 50.54(q)(3) Effectiveness Evaluation Form, Condition Report Nos.: TR-2016-004376; TR-2018-001581	March 20, 2018
2018-001581-6	Comanche Peak Nuclear Power Plant 10 CFR 50.54(q)(3) Screening Evaluation Form, Condition Report Nos.: CR-2017-009505; TR-2018-001001, TR-2018-001581	March 15, 2018
2018-001581-6	Comanche Peak Nuclear Power Plant 10 CFR 50.54(q)(3) Effectiveness Evaluation Form, Condition Report Nos.: CR-2017-009505; TR-2018-001001, TR-2018-001581	March 15, 2018
2018-001581-7	Comanche Peak Nuclear Power Plant 10 CFR 50.54(q)(3) Screening Evaluation Form, Condition Report Nos.: TR-2017-002079; TR-2017-009380, TR-2018-001581	March 20, 2018
2018-001581-7	Comanche Peak Nuclear Power Plant 10 CFR 50.54(q)(3) Effectiveness Evaluation Form, Condition Report Nos.: TR-2017-002079; TR-2017-009380, TR-2018-001581	March 20, 2018
	Comanche Peak Nuclear Power Plant Emergency Plan, Units 1 and 2	11, 27, 28, 41, 42

Condition Reports (CR)

CR-2014-005874	CR-2015-012024	CR-2016-001187	CR-2016-002478
CR-2016-002704	CR-2016-003377	CR-2016-003467	CR-2016-006983
CR-2018-001386	CR-2018-002654	CR-2018-007026	CR-2018-008058
CR-2018-008104	TR-2016-002987	TR-2016-010466	TR-2016-010508
TR-2016-010590	TR-2016-010885	TR-2017-000900	TR-2017-002380
TR-2017-003677	TR-2017-008391	TR-2017-009345	TR-2017-009809
TR-2018-000045	TR-2018-000239	TR-2018-001919	TR-2018-005711
CR-2018-007019	CR-2018-008140		

Work Orders

5270670	5356319	5357278	5468669
5487099	5569255	5626062	

Procedures
Numbers

Title

Revision

STA-421	Control of Issue Reports	21
STA-422	Corrective Action Program	34
NQA-3.02	Internal Audit and Surveillance Programs	14
EPP-204	Activation and Operation of the Technical Support Center (TSC)	16

Miscellaneous Documents Number	Title	Revision or Dates
EVAL-2016-004	Emergency Preparedness	March 29, 2016
EVAL-2017-003	Emergency Preparedness	April 18, 2017
EVAL-2018-004	Emergency Preparedness	April 11, 2018
NOS 2016-1	Nuclear Oversight Performance Assessment Triannual Report 2016-1 (September 2015 - December 2015)	
NOS 2016-2	Nuclear Oversight Performance Assessment Triannual Report 2016-2 (January 2016-May 2016)	
KLD TR-589	Comanche Peak Nuclear Power Plant, Development of Evacuation Time Estimates	1
EV-CR-2016-006983-2	Apparent Cause Evaluation (Low Tier) for CR-2016-006983, ERO Call-out System Activation	August 25, 2016
	Emergency Preparedness Gold Team Exercise, September 28, 2016, Final Report	October 27, 2016
	Green Team Exercise (WANO), July 26, 2016, Final Report	September 27, 2016
	Emergency Preparedness, Red Team Exercise, April 12, 2016, Final Report	June 2 2016
	Comanche Peak Nuclear Power Plant Emergency Response Organization, Exercise Report, Blue Team – February 15, 2017	April 21, 2017
	Comanche Peak Nuclear Power Plant Emergency Response Organization, Exercise Report, Gold Team – August 16, 2017	October 15, 2017
	Comanche Peak Nuclear Power Plant Emergency Response Organization, Exercise Report, Gold Team – July 12, 2017	October 18, 2017
	Comanche Peak Nuclear Power Plant Emergency Response Organization, Exercise Report, Green Team – January 11, 2017	February 7, 2017
	Comanche Peak Nuclear Power Plant Emergency Response Organization, Exercise Report, Red Team – June 28, 2017	July 27, 2017
	Comanche Peak Nuclear Power Plant Emergency Response Organization, Exercise Report, Gold Team – February 18, 2018	August 28, 2018

	Comanche Peak Nuclear Power Plant Emergency Response Organization, Exercise Report, Blue Team – April 4, 2018	August 28, 2018
	Comanche Peak Nuclear Power Plant Emergency Response Organization, Exercise Report, Green Team – July 11, 2018	August 28, 2018
	Comanche Peak Nuclear Power Plant After Action Report/Improvement Plan, Drill Date – October 11, 2016, Radiological Emergency Preparedness (REP) Program	November 16, 2016
CP-201601153	To: Emergency Planning E07, RE: 2016 Annual Review of CPNPP Evacuation Time Estimate	December 15, 2016
CP-201701008	To: Emergency Planning E07, RE: 2017 Annual Review of CPNPP Evacuation Time Estimate	December 18, 2017 (says 2018)
	Communications Drill Summary, March 29, 2016	July 6, 2016
	Communications Drill Summary, June 28, 2016	August 10, 2016
	Communications Drill Summary, September 28, 2016	December 12, 2016
	Communications Drill Summary, October 31, 2016	November 2, 2016
	Communications Drill Summary, December 20, 2017	January 15, 2018
	Communications Drill Summary, August 16, 2017	October 3, 2017
	Communications Drill Summary, February 15 2017	October 3, 2017
	Communications Drill Summary, January 16, 2018	April 26, 2018
	Communications Drill Summary, June 6, 2018	August 28, 2018

Miscellaneous Documents Number	Title	Revision or Dates
	Communications Drill Summary, August 23, 2018	August 28, 2018
	Health Physics Drill, Semi Annual, (EP37PA1XY1), July 26, 2016	September 12, 2016
	Health Physics Drill, Semi Annual, (EP37PA1XY1), September 28, 2016	December 1, 2016
	Health Physics Drill, Semi Annual, (EP37PA1XY1), February 15, 2017	May 16, 2017
	Health Physics Drill, Semi Annual, (EP37PA1XY1), July 12, 2017	October 3, 2017
	Health Physics Drill, Semi Annual, (EP37PA1XY1), July 11, 2018, Summary/After Action	October 15, 2018
	Offsite Radiological Drill Report (EP37ORSRJ1), June 29, 2016 – July 27, 2016	September 12, 2016
	Offsite Radiological Drill Report (EP37ORSRJ1), May 2017 – June 2017	
	Offsite Radiological Drill Report (EP37ORSRJ1), August 20, 2018 – September 23, 2018	October 15, 2018
IS47.ECA.HCI	Medical Drill – Handling a Contaminated Injured Individual	October 31, 2016; January 11, 2018
RP37.ECA.HCI	Handling Contaminated Injured Personnel - Continuing	June 30, 2016
IS21.ECA.HCI	Medical Drill – Handling a Contaminated Injured Individual	January 12, 2017
	Comanche Peak Nuclear Power Plant Media Guide	December 2016; November 2017
	Plan of Instruction for Training of Local Officials for Fixed Nuclear Facility Accident Response, May 9, 2017	May 9, 2017
CP-201601034	Comanche Peak Nuclear Power Plant (CPNPP) Transmittal of the Offsite Portion of the 2016 Emergency Preparedness Independent Review	October 27, 2016

EVAL-2001-042	NOD Quarterly Report and Assessment for the Third Quarter of 2001	October 12, 2001
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71124.01 — Radiological Hazard Assessment and Exposure Controls

Condition Reports (CR)

CR-2017-05996	CR-2017-06658	CR-2017-09983	CR-2017-10105	CR-2017-11747
CR-2018-01895	CR-2018-04549	CR-2018-04822	CR-2018-04881	CR-2018-08373
CR-2018-08400	TR-2017-03384	TR-2017-5436	TR-2017-06678	TR-2017-08189
TR-2017-10351	TR-2017-13251	TR-2017-13314	TR-2018-02651	TR-2018-04234
TR-2018-05087	TR-2018-05692	TR-2018-05702		

Procedures

Number	Title	Revision
RPI-212	Radioactive Source Control	13
RPI-302	Radiation and Contamination Surveys	00
RPI-304	Radiological Posting and Labeling	00
RPI-305	Access Controls for High Radiation Areas	03
RPI-418	Operation of the Tri-Nuc Underwater Filter Equipment	07
RPI-700	Sealed Source Leak Testing	13
RPI-802	Performance of Source Checks	28
RPI-895	Calibration of the NE Technology SAM – Small Articles Monitor	06
STA-650	General Health Physics Plan	08
STA-652	Radioactive Material Control	21
STA-656	Radiation Work Control	22
STA-660	Control of High Radiation Areas	18

Audits and Self-Assessments

Number	Title	Date
TR-2017-007881	Self-Assessment: Radiation Protection (RP) Supplemental Worker Qualification Program	July 24, 2017
EVAL-2017-008	CPNPP Nuclear Oversight: Work Management/RP Audit	July 31, 2017
TR-2017-008189	Self-Assessment: RP Fundamentals	March 8, 2018
	2018 CPNPP Mid-Cycle Assessment Report	March 14, 2018

Radiation Work Permits

Number	Title	Revision
20171400	1RF19 Primary Side Steam Generator Activities	01
20171600	1RF19 Westinghouse (WEC) Refueling Activities	01
20182100	2RF17 RP Support in Containment	00
20182108	2RF17 NRC and Management Walk-Downs	01
20182205	2RF17 Scaffold Activities	01
20182300	2RF17 Steam Generator Secondary Side Activities	01
20182600	2RF17 Westinghouse (WEC) Refueling Activities	00

Radiological Surveys

Number	Title	Date
M-20181208-42	U-2 RB 905' Corridor 2-160A	December 8, 2018
M-20181208-20	U-2 RB 808' Corridor 2-154A-D	December 8, 2018
M-20181208-22	U-2 RB 860' Corridor 2-155L-N	December 8, 2018
M-20181209-14	U-2 RB 832' Corridor 2-155D-G	December 8, 2018
M-20181211-92	AUX 832' Piping Area X-213	December 11, 2018
M-20181212-43	AUX 790' Waste Monitor Tank Pumps	December 12, 2018

Miscellaneous Documents

Number	Title	Dates
NRC Form 748	2018 NSTS Confirmation of Annual Inventory Reconciliation	January 10, 2018
WO 449008	Comanche Peak Part 61 Analytical Results	May 29, 2018
WO 5545076	Sealed Source Leak Testing	June 14, 2018
WO 454340	Comanche Peak Part 61 Analytical Results	August 14, 2018
	Spent Fuel Pool Non-Fuel Stored Items	October 29, 2018
WO 5615291	Sealed Source Leak Testing	November 20, 2018
	LHRA/VHRA Key Log	December 11-13, 2018

71124.02 — Occupational ALARA Planning and Controls

Condition Reports (CR)

CR-2018-05831	TR-2018-05436	TR-2018-05807	TR-2018-05436	TR-2017-05436
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Procedures Number	Title	Revision
CHM-170	Liquid and Gaseous Effluents Program	04
RPI-213	Survey and Release of Material	27
RPI-602	Radiological Surveillance	61
RPI-620	Crud Burst Trending & Radiological Transients	18
STA-650	General Health Physics Plan	09
STA-651	ALARA Program	12
STA-652	Radioactive Material Control	21
STA-656	Radiation Work Control	22
STA-657	ALARA Job Planning/Debriefing	20
STA-660	Control of High Radiation Areas	18

Audits and Self-Assessments

Number	Title	Date
TR-2017-007881	Self-Assessment: RP Supplemental Worker Qualification Program	July 24, 2017
EVAL-2017-008	CPNPP Nuclear Oversight: Work Management/Radiation Protection Audit	July 31, 2017
TR-2017-008189	Self-Assessment: RP Fundamentals	March 8, 2018
	2018 CPNPP Mid-Cycle Assessment Report	March 8, 2018
EVAL-2018-006	CPNPP Nuclear Oversight: Work Management/RP Audit	July 27, 2018

Radiation Work Permits

Number	Title	Revision
RWP 2018-2100	2RF17 RP Support in Containment	00
RWP 2018-2102	Locked High Radiation Area (LHRA) RP Balance of Plant BOP	00
RWP 2018-2214	Reactor Vessel Annulus, Seal Table Activities, Eddy Current Test	00
RWP 2018-2215	2RF17 Scaffold Activities	01
RWP 2018-2601	Maintenance Activities	00

ALARA Planning, In-Progress Reviews, and Post-Job Reviews

Number	Title	Revision
RWP 2018-2100	2RF17 RP Support in Containment	00
RWP 2018-2215	2RF17 Scaffold Activities	01
RWP 2018-2601	Maintenance Activities	00

Radiation Surveys

Number	Title	Date
M-20181209-4	Unit-2 RB 905 Pressurizer Compartment	December 10, 2018
M-20181210-19	Unit-2 2-153 Under Vessel Bare Metal	December 12, 2018
M-20181210-43	2-156B Deconner Seal Table Wipe Down	December 10, 2018
M-20181210-51	2RF17 Post Crud Burst 2-154L Lower Loop	December 10, 2018
M-20181210-51	2-155 Post Crud Burst Upper Loop	December 10, 2018

Miscellaneous Documents

Number	Title	Date
2018-2002	Shielding Request: Pressurizer Lines Northeast Wall	December 12, 2018
	Radwaste Water/Gas Management Plan	December 8, 2018
	Unit-2 Containment Radioactive Release RF17 Outage	December 10, 2018
	2RF17 Crud burst Cleanup Projection	December 11, 2018

71151 — Performance Indicator Verification

Condition Reports

TR-2017-011425

Procedures

Number	Title	Revisions
SG-012	Alert and Notification System Surveillance	24, 25
EPP-100	Maintaining Emergency Preparedness	11
EPP-201	Emergency Action Level Technical Bases Document	1

Miscellaneous Documents Number	Title	Revision or Date
LO44.BBS.011	ATWT, Simulator Exercise Guide	May 3, 2017
LO44.CPE.003	CPE Scenario, Simulator Exercise Guide	1
LO47.D17.CLS	Cold Look Cycle 17-4, Simulator Exercise Guide	September 18, 2017
EP37.TEX.XY1	EP Exercise, February 2018	February 5, 2018
LO44.BBS.022	Faulted-Ruptured Steam Generator, Simulator Exercise Guide	April 11, 2018
LO44.BBS.027	Conservative Decision Making SOER 94-1, Simulator Exercise Guide	June 7, 2018

71152 — Problem Identification and Resolution

Condition Reports

CR-2018-004648 CR-2018-007165

Procedures Number	Title	Revision
STI-421.01	Control of Timed Operator Actions	1

PAPERWORK REDUCTION ACT STATEMENT

This letter does not contain new or amended information collection requirements subject to the Paperwork Reduction Act of 1995 (44 U.S.C. 3501 et seq.). Existing information collection requirements were approved by the Office of Management and Budget, Control Number 31500011. The NRC may not conduct or sponsor, and a person is not required to respond to, a request for information or an information collection requirement unless the requesting document displays a currently valid Office of Management and Budget control number.

This letter and its enclosure will be made available for public inspection and copying at <http://www.nrc.gov/reading-rm/adams.html> and at the NRC Public Document Room in accordance with 10 CFR 2.390, "Public Inspections, Exemptions, and Requests for Withholding."

**Information Request
September 17, 2018
Notification of Inspection and Request for Information
Comanche Peak Unit 2
NRC Inspection Report 05000446/2018004**

INSERVICE INSPECTION DOCUMENT REQUEST

**Inspection Dates: November 26 to December 7, 2018
Inspector: Jim Drake, Senior Reactor Inspector**

A. Information Requested for the In-Office Preparation Week

The following information should be sent to the Region IV office in hard copy or electronic format (ims.certrec.com preferred), in care of Jim Drake, by November 2, 2018, to facilitate the selection of specific items that will be reviewed during the onsite inspection week. The inspector will select specific items from the information requested below and then request from your staff additional documents needed during the onsite inspection week. Please provide requested documentation electronically if possible. If requested documents are large and only hard copy formats are available, please inform the inspector(s), and provide subject documentation during the first day of the onsite inspection.

If you have any questions regarding this information request, please call the inspector as soon as possible.

On November 26, 2018, a reactor inspector from the Nuclear Regulatory Commission's (NRC) Region IV office will perform the baseline inservice inspection at Comanche Peak Unit 2, using NRC Inspection Procedure 71111.08, "Inservice Inspection Activities." Experience has shown that this inspection is a resource intensive inspection both for the NRC inspector and your staff. The date of this inspection may change dependent on the outage schedule you provide. In order to minimize the impact to your onsite resources and to ensure a productive inspection, we have enclosed a request for documents needed for this inspection. The information identified on this request (Section A) is to be provided prior to the inspection to ensure that the inspector(s) are adequately prepared. The section identified as "Documents Upon Request" is intended to provide guidance to

the type of information an inspector(s) will be requesting to complete the inspection. It is important that all of these documents are up to date and complete in order to minimize the number of additional documents requested during the preparation and/or the onsite portions of the inspection (i.e., condition reports with attachments).

We have discussed the schedule for these inspection activities with your staff and understand that our regulatory contact for this inspection will be Mr. James Barnette of your licensing organization. The tentative inspection schedule is as follows:

Preparation week: November 13 - 16, 2018

Onsite weeks: November 26 – December 7, 2018

Our inspection dates are subject to change based on your updated schedule of outage activities. If there are any questions about this inspection or the material requested, please contact Jim Drake at (817) 200-1558 (email to: James.Drake@nrc.gov).

A.1 ISI/Welding Programs and Schedule Information

1. A detailed schedule (including preliminary dates) of:
 - 1.1. Nondestructive examinations planned for ASME Code Class Components performed as part of your ASME Section XI, risk informed (if applicable), and augmented inservice inspection programs during the upcoming outage.
 - 1.2. Examinations planned for Alloy 82/182/600 components that are not included in the Section XI scope (If applicable)
 - 1.3. Examinations planned as part of your boric acid corrosion control program (Mode 3 walkdowns, bolted connection walkdowns, etc.)
 - 1.4. Welding activities that are scheduled to be completed during the upcoming outage (ASME Class 1, 2, or 3 structures, systems, or components)
2. A copy of ASME Section XI Code Relief Requests and associated NRC safety evaluations applicable to the examinations identified above.
 - 2.1. A list of ASME Code Cases currently being used to include the system and/or component the Code Case is being applied to.
3. A list of nondestructive examination reports which have identified recordable or rejectable indications on any ASME Code Class components since the beginning of the last refueling outage. This should include the previous Section XI pressure test(s) conducted during start up and any evaluations associated with the results of the pressure tests.
4. A list including a brief description (e.g., system, code class, weld category, nondestructive examination performed) associated with the repair/replacement activities of any ASME Code Class component since the beginning of the last outage and/or planned this refueling outage.

5. If reactor vessel weld examinations required by the ASME Code are scheduled to occur during the upcoming outage, provide a detailed description of the welds to be examined and the extent of the planned examination. Please also provide reference numbers for applicable procedures that will be used to conduct these examinations.
6. Copy of any 10 CFR Part 21 reports applicable to structures, systems, or components within the scope of Section XI of the ASME Code that have been identified since the beginning of the last refueling outage.
7. A list of any temporary non-code repairs in service (e.g., pinhole leaks).
8. A copy of (or ready access to) most current revision of the inservice inspection program manual and plan for the current interval.
9. Copy of NDE procedures for NDE that will be used during the outage.
10. Copy of overarching site procedure for welding.
11. Provide evaluation of operating experience associated with CRDM thermal sleeve wear issue.

A.2 Reactor Pressure Vessel Head

1. Provide a detailed scope of the planned bare metal visual examinations (e.g., volume coverage, limitations, etc.) of the vessel upper head penetrations and/or any nonvisual nondestructive examination of the reactor vessel head including the examination procedures to be used.
 - 1.1. Provide the records recording the extent of inspection for each penetration nozzle including documents which resolved interference or masking issues that confirm that the extent of examination meets 10 CFR 50.55a(g)(6)(ii)(D).
 - 1.2. Provide records that demonstrate that a volumetric or surface leakage path examination assessment was performed.
2. Copy of current calculations for EDY, and RIY as defined in Code Case N-729-1 that establish the volumetric and visual inspection frequency for the reactor vessel head and J-groove welds.

A.3 Boric Acid Corrosion Control Program

1. Copy of the procedures that govern the scope, equipment and implementation of the inspections required to identify boric acid leakage and the procedures for boric acid leakage/corrosion evaluation.
2. Please provide a list of leaks (including code class of the components) that have been identified since the last refueling outage and associated corrective action documentation. If during the last cycle, the unit was shutdown, please provide documentation of containment walkdown inspections performed as part of the boric acid corrosion control program.

A.4 Steam Generator Tube Inspections

1. A detailed schedule of:
 - Steam generator tube inspection, data analyses, and repair activities for the upcoming outage.
 - Steam generator secondary side inspection activities for the upcoming outage.
2. Copy of steam generator history documentation given to vendors performing eddy current (ET) testing of the steam generators during the upcoming outage.
3. Copy of steam generator condition monitoring and operational assessment of previous cycle. Also include a copy of the following documents as they become available for the current cycle:
 - Degradation assessment
 - Condition monitoring assessment
4. Define the planned steam generator ET scope (e.g., 100 percent of unrepaired tubes with bobbin probe and 20 percent sample of hot leg expansion transition regions with rotating probe) and identify the scope expansion criteria, which will be applied.
5. Identify and quantify any steam generator tube leakage experienced during the previous operating cycle. Also provide documentation identifying which steam generator was leaking and corrective actions completed and planned for this condition.
6. Copy of steam generator eddy current data analyst guidelines and site validated eddy current technique specification sheets. Additionally, please provide a copy of EPRI Appendix H, "Examination Technique Specification Sheets," qualification records.
7. Copy of the guidance to be followed if a loose part or foreign material is identified in the steam generators.
8. Provide past history of the condition and issues pertaining to the secondary side of the steam generators (including items such as loose parts, fouling, top of tube sheet condition, crud removal amounts, etc.).

Indicate where the primary, secondary, and resolution analyses are scheduled to take place.

A.5 Additional Information Related to all Inservice Inspection Activities

1. A list with a brief description of inservice inspection, and boric acid corrosion control program related issues (e.g., CR) entered into your corrective action program since the beginning of the last refueling outage. For example, a list based upon data base searches using key words related to piping such as: inservice inspection, ASME Code, Section XI, NDE, cracks, wear, thinning, leakage, rust, corrosion, boric acid, or errors in piping examinations.

2. Provide training (e.g., scaffolding, fall protection, foreign material exclusion, confined space) if they are required for the activities described in A.1 through A.3.
3. Please provide names and phone numbers for the following program leads:

Inservice inspection (examination, planning)
Containment exams
Snubbers and supports
Repair and replacement program
Licensing
Site welding engineer
Boric acid corrosion control program
Steam generator inspection activities (site lead and vendor contact)

DOCUMENTS UPON REQUEST

Inservice Inspection / Welding Programs and Schedule Information

1. Updated schedules for inservice inspection/nondestructive examination activities, including planned welding activities, and schedule showing contingency repair plans, if available.
2. For ASME Code Class welds selected by the inspector please provide copies of the following documentation (as applicable) for each subject weld:
 - Weld data sheet (traveler).
 - Weld configuration and system location.
 - Applicable welding procedures used to fabricate the welds.
 - Copies of procedure qualification records (PQRs).
 - Welder's performance qualification records (WPQ).
 - Nonconformance reports for the selected welds (If applicable).
 - Radiographs of the selected welds and access to equipment to allow viewing radiographs (if radiographic testing was performed).
 - Preservice and inservice examination records for the selected welds.
 - Readily accessible copies of nondestructive examination personnel qualifications records for reviewing.
3. For ultrasonic examination procedures qualified in accordance with ASME Code, Section XI, Appendix VIII, provide documentation supporting the procedure qualification (e.g., the EPRI performance demonstration qualification summary sheets). Also, include qualification documentation of the specific equipment to be used (e.g., ultrasonic unit, cables, and transducers including serial numbers) and nondestructive examination personnel qualification records.

Boric Acid Corrosion Control Program

1. Boric acid walk down inspection results, an updated list of boric acid leaks identified so far this outage, associated corrective action documentation, and overall status of planned boric acid inspections.
2. List of boric acid evaluation and corrective action documents associated with the leakage.

Steam Generator Tube Inspections

1. Examination technique specification sheets and associated justification for any revisions.
2. Copy of the eddy current testing procedures used to perform the steam generator tube inspections (specifically calibration and flaw characterization/sizing procedures, etc.).
3. Procedures with guidance/instructions for identifying (e.g., physically locating the tubes that require plugging) and plugging steam generator tubes.
4. List of corrective action documents generated by the vendor and/or site with respect to steam generator inspection activities.

Codes and Standards

1. Ready access to (i.e., copies provided to the inspector(s) for use during the inspection at the onsite inspection location, or room number and location where available):
 - Applicable editions of the ASME Code (Sections V, IX, and XI) for the inservice inspection program and the repair/replacement program.
2. Copy of the performance demonstration initiative (PDI) generic procedures with the latest applicable revisions that support site qualified ultrasonic examinations of piping welds and components (e.g., PDI-UT-1, PDI-UT-2, PDI-UT-3, PDI-UT-10, etc.).
3. Boric Acid Corrosion Guidebook Revision 1 – EPRI Technical Report 1000975.

**The following items are requested for the
Occupational Radiation Safety Inspection
at Comanche Peak**

Dates of Inspection: 12/10/2018 to 12/14/2018

Integrated Report 2018004

Inspection areas are listed in the attachments below.

Please provide the requested information on or before **Monday, October 29, 2018**.

Please submit this information using the same lettering system as below. For example, all contacts and phone numbers for Inspection Procedure 71124.01 should be in a file/folder titled "1-A," applicable organization charts in file/folder "1-B," etc.

If information is placed on *ims.certrec.com*, please ensure the inspection exit date entered is at least 30 days later than the onsite inspection dates, so the inspectors will have access to the information while writing the report.

In addition to the corrective action document lists provided for each inspection procedure listed below, please provide updated lists of corrective action documents at the entrance meeting. The dates for these lists should range from the end dates of the original lists to the day of the entrance meeting.

If more than one inspection procedure is to be conducted and the information requests appear to be redundant, there is no need to provide duplicate copies. Enter a note explaining in which file the information can be found.

If you have any questions or comments, please contact Louis Carson at 817-200-1221 or via e-mail at Louis.Carson@nrc.gov.

PAPERWORK REDUCTION ACT STATEMENT

This letter does not contain new or amended information collection requirements subject to the Paperwork Reduction Act of 1995 (44 U.S.C. 3501 et seq.). Existing information collection requirements were approved by the Office of Management and Budget, control number 3150-0011.

1. Radiological Hazard Assessment and Exposure Controls (71124.01) and Performance Indicator Verification (71151)

Date of Last Inspection: **April 10, 2017**

- A. List of contacts and telephone numbers for the Radiation Protection Organization Staff and Technicians, as well as the Licensing/Regulatory Affairs staff. Please include area code and prefix. If work cell numbers are appropriate, then please include them as well.
- B. Applicable organization charts including position or job titles. Please include as appropriate for your site, Site Management, RP, Chemistry, Maintenance (I&C), Engineering, and Emergency Protection. (Recent pictures are appreciated.)
- C. Copies of audits, self-assessments, LARs, and LERs written since the last inspection date, related to this inspection area
- D. Procedure indexes for the radiation protection procedures and other related disciplines.
- E. Please provide procedures related to the following areas noted below. Additional procedures may be requested by number after the inspector reviews the procedure indexes.
 - 1. Radiation Protection Program
 - 2. Radiation Protection Conduct of Operations, if not included in #1.
 - 3. Personnel Dosimetry
 - 4. Posting of Radiological Areas
 - 5. High Radiation Area Controls
 - 6. RCA Access Controls and Radiation Worker Instructions
 - 7. Conduct of Radiological Surveys
 - 8. Radioactive Source Inventory and Control
 - 9. Fuel Pool Inventory Access and Control
- F. Please provide a list of NRC Regulatory Guides and NUREGs that you are currently committed to relative to this program. Please include the revision and/or date for the commitment and where this may be located in your current licensing basis documents.
- G. Please provide a summary list of corrective action documents (including corporate and sub-tiered systems) since the last inspection date.
 - 1. Initiated by the radiation protection organization
 - 2. Assigned to the radiation protection organizationNOTE: These lists should include a description of the condition that provides sufficient detail that the inspectors can ascertain the regulatory impact, the significance level assigned to the condition, the status of the action (e.g., open, working, closed, etc.) and the search criteria used. Please provide in document formats which are “sortable” and “searchable” so that inspectors can quickly and efficiently determine appropriate sampling and perform word searches, as needed. (Excel spreadsheets are the preferred format.) If codes are used, please provide a legend for each column where a code is used.
- H. List of radiologically significant work activities scheduled to be conducted during the inspection period. (If the inspection is scheduled during an outage, please also include a list of work activities greater than 1 rem, scheduled during the outage with the dose estimate for the work activity.) Please include the radiological risk assigned to each activity.

- I. Provide a summary of any changes to plant operation that have resulted or could result in a significant new radiological hazard. For each change, please provide the assessment conducted on the potential impact and any monitoring done to evaluate it.
- J. List of active radiation work permits and those specifically planned for the on-site inspection week.
- K. Please provide a list of air samples taken to verify engineering controls and a separate list for breathing air samples in airborne radiation areas or high contamination work areas. Please include the RWP the breathing air sampling supports.
- L. Please provide the current radioactive source inventory, listing all radioactive sources that are required to be leak tested. Indicate which sources are deemed 10 CFR Part 20, Appendix E, Category 1 or Category 2. Please indicate the radioisotope, initial and current activity (w/assay date), and storage location for each applicable source.
- M. The last two leak test results for all required/applicable radioactive sources that have failed its leak test within the last two years. Provide any applicable condition reports.
- N. A list of all non-fuel items stored in the spent fuel pools, and if available, their appropriate dose rates (Contact / @ 30cm)
- O. A list of radiological controlled area entries greater than 100 millirem, since the last inspection date. The list should include the date of entry, some form of worker identification, the radiation work permit used by the worker, dose accrued by the worker, and the electronic dosimeter dose alarm set-point used during the entry (for Occupational Radiation Safety Performance Indicator verification in accordance with IP 71151).
- P. A list describing VHRAs and TS HRAs (> 1 rem/hour) that are current and historical. Include their current status, locations, and control measures.
- Q. Temporary effluent monitor locations and calibrations (AMS-4) used to monitor normally closed doors or off-normal release points (e.g., equipment hatch or turbine heater bay doors). Include any CRs associated with this monitoring or instrumentation.

2. Occupational ALARA Planning and Controls (71124.02)

Date of Last Inspection: **December 4, 2017**

- A. List of contacts and telephone numbers for ALARA program personnel, as well as the Licensing/Regulatory Affairs staff. Please include area code and prefix. If work cell numbers are appropriate, then please include them as well.
- B. Applicable organization charts including position or job titles. Please include as appropriate for your site, Site Management, RP, Chemistry, Maintenance (I&C), Engineering, and Emergency Protection. (Recent pictures are appreciated.)
- C. Copies of audits, self-assessments, LARs, and LERs, written since the date of last inspection, focusing on ALARA
- D. Procedure index for ALARA Program procedures and other related disciplines.
- E. Please provide specific procedures related to the following areas noted below. Additional Specific Procedures may be requested by number after the inspector reviews the procedure indexes.
 - 1. ALARA Program
 - 2. ALARA Planning
 - 3. ALARA Reviews
 - 4. ALARA Committee
 - 5. Radiation Work Permit Preparation
- F. Please provide a list of NRC Regulatory Guides and NUREGs that you are currently committed to relative to this program. Please include the revision and/or date for the commitment and where this may be located in your current licensing basis documents.
- G. Please provide a summary list of corrective action documents (including corporate and sub-tiered systems) written since the date of last inspection, related to the ALARA program, including exceeding RWP Dose Estimates.

NOTE: These lists should include a description of the condition that provides sufficient detail that the inspectors can ascertain the regulatory impact, the significance level assigned to the condition, the status of the action (e.g., open, working, closed, etc.) and the search criteria used. Please provide in document formats which are “sortable” and “searchable” so that inspectors can quickly and efficiently determine appropriate sampling and perform word searches, as needed. (Excel spreadsheets are the preferred format.) If codes are used, please provide a legend for each column where a code is used.
- H. List of work activities (RWPs) greater than 1 rem, since date of last inspection, including the original dose estimates and actual doses accrued. (Excel format preferred). Please provide all revisions/changes, as well as any related RWPs that support the work activity.
- I. List of active work activities (RWPs) that will be in use while we are onsite, including the dose and dose rate settings, and if available, the planned dose. Include planning documents and surveys. Include radiological risk assessments and proposed control measures.

- J. Site dose totals for the past 3 years (based on dose of record). Also provide the current year-to-date (YTD) collective radiation exposure (CRE). In addition, please provide another document that separates the online and outage doses for the past 3 years.
- K. Most recent assessment of your isotopic mix, including the hard-to-detect radionuclides and alpha hazards. Include a list of new and historical exposure issues (radiological source term or high exposure areas/activities).
- L. If available, provide a copy of the lessons learned from the most recently completed outage for each unit. Include a summary list of any associated corrective action documents and the current status of any corrective actions assigned.
- M. Please provide the methods/reports that are in your process to meet the requirements of 10 CFR 20.1101(c) for periodic review of your RP program.
- N. Current exposure trends (BRAC dose rates and/or source term information).

COMANCHE PEAK NUCLEAR POWER PLANT – NRC INTEGRATED INSPECTION
 REPORT 05000445/2018004 AND 05000446/2018004 – February 11, 2019

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 MHaire, DRP
 RAlexander, DRP
 PJayroe, DRP/IPAT
 MHerrera, DRMA
 AAthar, DRP
 LNewmman, DRP
 LReyna, DRP
 R4Enforcement
 ROPReports

Electronic Distribution for Comanche Peak

ADAMS ACCESSION NUMBER: ML19042A345

SUNSI Review ADAMS: Non-Publicly Available Non-Sensitive Keyword:
 By: JJosey Yes No Publicly Available Sensitive NRC-002

OFFICE	SRI:DRP/A	RI:DRP/A	SPE:DRP/A	BC:EB1	BC:EB2	BC:OB
NAME	JJosey	RKumana	RAlexander	VGaddy	JDrake	GWerner
SIGNATURE	/RA/	/RA/	/RA/	/RA/	/RA/	/RA/
DATE	01/31/19	01/18/19	01/29/19	01/22/19	01/18/19	01/20/19
OFFICE	BC:PSB2	TL-IPAT	BC:DRP/A			
NAME	HGepford	RKellar	MHaire			
SIGNATURE	/RA/	/RA/ via E	/RA/			
DATE	01/31/19	01/23/19	2/11/19			

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